

# Exhibit A



0706 Re PCT/PTO

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PCT 3

## CERTIFICATE OF MAILING

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Donna L. Hengst

*Donna L. Hengst*

PATENT

Attorney Docket No. 24717-718

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application

Inventor(s): Mansour J. Karam et al.

Application No.: 10/070,338

Filed: February 27, 2002

Title Method And Apparatus For Characterizing The  
Quality of Network PathPATENT APPLICATION

Art Unit: Unassigned

Examiner: Unassigned

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Listed below or on an attached Form PTO-1449 is information known to applicant(s). A copy of each listed publication and U.S. and foreign patent, except for pending U.S. applications, is being submitted herewith, along with a concise explanation of information in a foreign language, if any, pursuant to 37 C.F.R. §1.97-1.98.

Applicants respectfully request that the listed information be considered by the Examiner and be made of record in the above-identified application. If form PTO-1449 is enclosed, the Examiner is requested to initial and return it in accordance with MPEP §609.


This statement is not intended to represent that a search has been made or that the information cited in the statement is, or is considered to be, material to patentability as defined in §1.56.

- ☒ This statement qualifies under 37 C.F.R. §1.97, subsection (b) because (check all that apply):
- ☐ (1) It is being filed within 3 months of the application filing date and is other than a continued prosecution application under § 1.53(d)  
-- OR --
- ☐ (2) It is being filed within 3 months of entry of a national stage  
-- OR --
- ☒ (3) It is being filed before the mail date of the first Office Action on the merits  
-- OR --
- ☐ (4) It is being filed before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114.
- ☐ 37 C.F.R. §1.97(c). If this statement is being filed after the latest of: (1) three months beyond the filing date of a national application; (2) three months beyond the date of entry of the national stage as set forth in §1.491 in an international application; or (3) the mailing date of a first Office action on the merits, but before the mailing date of the earlier of a final office action under §1.113 or a notice of allowance under §1.311, then:
- ☐ a certification as specified in §1.97(e) is provided below; or
- ☐ a fee of \$180.00 as set forth in §1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.
- ☐ 37 C.F.R. §1.97(d). If this statement is being filed after the mailing date of the earlier of a final office action under §1.113 or a notice of allowance under §1.311, but before payment of the issue fee, then:
- A. a certification as specified in §1.97(e) is completed below; and
- B. a petition under 37 C.F.R. §1.97(d) requesting consideration of this statement is submitted herewith; and
- C. a fee of \$130.00 as set forth in §1.17(i)(1) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.
- ☒ **Fee Authorization.** The Commissioner is hereby authorized to charge the above-referenced fees of \$0 and charge any additional fees or credit any overpayment associated with this communication to Deposit Account No. 23-2415 (Docket No. 24717-718).

Respectfully submitted,

WILSON SONSINI GOODRICH & ROSATI

Dated: 12/17/02

By:   
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# Exhibit B



# UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,338	12/12/2002	Mansour J. Karam	24717-718	2450
28960	7590	06/27/2006	EXAMINER	
HAVERSTOCK & OWENS LLP 162 NORTH WOLFE ROAD SUNNYVALE, CA 94086			BENGZON, GREG C	
			ART UNIT	PAPER NUMBER
			2144	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/070,338

Applicant(s)

KARAM ET AL.

Examiner

Greg Bengzon

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/008)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This application has been examined. Claims 1-47 are pending.

### ***Priority***

This application claims benefits of priority from Provisional Application 60/241450 filed October 17, 2000.

The effective date of the claims described in this application is October 17, 2000.

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 05/15/2006, 03/02/2006, 01/30/2006, 07/25/2005, 06/10/2005, 03/28/2005, 03/25/2005, 03/25/2005, 12/17/2002, are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the 'first segment and second segment' as recited in Claims 1 and 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.



Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-47 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 1, 24 recite 'a first segment and a second segment'. There is insufficient guidance from the Applicant Specifications regarding said segment, such that one of ordinary skill in the art would not be able to ascertain what a segment is.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 24 recite 'adding the first metric and the second metric to generate a third metric, wherein the third metric is at least partly the function of the same plurality of one or more elementary network parameters of the network path'. There is no support from the Applicant Specifications regarding said addition of first and second metric, wherein the result is a third metric of the same network parameter.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 17,24-27, 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Shavitt (US Patent 7065584).

The Examiner notes that distance and delay are used interchangeably in the Shavitt disclosure. (Shavitt-Column 5 Lines 6-7)

Shavitt disclosed (re. Claim 1) a network path, including a first segment and a second segment (Shavitt-Column 2 Lines 35-40, Column 5 Lines 15-20) accessing a first metric and a second metric (Shavitt-Column 5 Lines 35-45, Column 5 Lines 65) , wherein the first metric and the second metric are at least in part quality characterizations of a same plurality of one or more network applications (Shavitt-Column 1 Lines 60-65), the quality characterization characterizes a quality of the same plurality of one or more network applications running at one or more segment end-points (Shavitt-Column 1 Lines 67 – ‘tracer stations’), the first metric and the second metric are at least partly a function of a same plurality of one or more elementary network parameters (Shavitt- Column 2 Lines 50-60), the plurality of one or more network parameters include one or more of delay (Shavitt- Column 2 Lines 20-25, Column 5 Lines 5-10), jitter, loss, currently available bandwidth, and intrinsic bandwidth, the first metric is at least partly the function of the same plurality of elementary network parameters of the first segment (Shavitt-Column 6 Lines 20-35) , the one or more segment end

points include one or more endpoints of the first segment, the second metric (Shavitt-Column 6 Lines 20-35) is at least partly the function of the same plurality of elementary network parameters (Shavitt-Column 5 Lines 5-10 – 'delay') of the second segment, and the one or more segment end points include one or more endpoints of the second segment; and

adding the first metric and the second metric to generate a third metric (Shavitt-Column 6 Lines 20-35), wherein the third metric is at least partly the function of the same plurality of one or more elementary network parameters of the network path, the one or more segment end points include one or more endpoints of the network path, and

the third metric is a quality characterization of the same plurality of one or more applications.

Shavitt disclosed (re. Claim 2) prior to accessing the first or the second metric, generating at least one of the first metric and the second metric (Shavitt-Column 5 Lines 20-25)

Shavitt disclosed (re. Claim 3) prior to accessing the first or the second metric, receiving at least one of the first metric and the second metric. (Shavitt-Column 5 Lines 20-25)

Shavitt disclosed (re. Claim 4) wherein at least one of the plurality of one or more network parameters is dynamic.(Shavitt-Column 5 Lines 1-5)

Shavitt disclosed (re. Claim 17) a delay parameter. (Shavitt-Column 5  
Lines 6-7)

Claims 24-27, 40 are rejected on the same basis as Claims 1-4, 17.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for  
all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-16, 18-21, 28-39, 41-44 are rejected under 35 U.S.C. 103(a) as  
being unpatentable over Shavitt (US Patent 7065584) in view of what was well-  
known in the art.

Shavitt did not disclose (re. Claim 5) wherein at least one of the plurality  
of one or more network parameters is static. However, Shavitt disclosed where  
the network parameters are dynamic. At the time of the invention it would have  
been well-known in the art that where Shavitt disclosed delay as a function of  
distance, where the distance may be quasi-static, then the delay parameter will  
be static as well. At the time of the invention it would have been obvious to

combine what was well known in the art with Shavitt regarding such static network parameters. The motivation for said combination would have been to reduce the complexity of the solution required to characterize the network path (Shavitt-Column 8 Lines 40-45).

Shavitt did not disclose (re. Claim 6,7,11) UDP and TCP applications; (re. Claim 8,9,10) network applications including voice, video, and video conferencing; (re. Claims 15) ftp applications; (re. Claim 16) telnet applications.

At the time of the invention it would have been well-known in the art that Internet applications (Shavitt-Column 1 Lines 60-65) would encompass network applications including UDP, TCP, voice, video, video conferencing, ftp applications, and telnet applications. At the time of the invention it would have been obvious to combine what was well known in the art with Shavitt regarding such network applications. The motivation for said combination would have been to allow for measurement of all Internet applications and not just some Internet applications for maximum benefit Shavitt measurements.

Shavitt did not disclose (re. Claim 12,13,14) HTTP, HTTP/1.0, and HTTP/1.1 applications.

At the time of the invention it would have been well-known in the art that applications based on an HTTP/web server (Shavitt-Column 1 Lines 50-55) would encompass network applications including HTTP, HTTP/1.0, and HTTP/1.1 applications. At the time of the invention it would have been obvious to combine what was well known in the art with Shavitt regarding such network applications. The motivation for said combination would have been to allow for measurement of all Internet applications and not just some Internet applications for maximum benefit from the Shavitt measurements.

Shavitt did not disclose (re. Claim 18) wherein the plurality of one or more network parameters include jitter; (re. Claim 19) wherein the plurality of one or more network parameters include loss; (re. Claim 20) wherein the plurality of one or more network parameters include currently available bandwidth; (re. Claim 21) wherein the plurality of one or more network parameters include intrinsic bandwidth;

At the time of the invention it would have been well-known in the art that jitter, loss, currently available bandwidth, and intrinsic bandwidth are measurements taken to describe path quality. It would have also been well-known in the art that any performance criteria susceptible to characterization in

the same manner as delay (i.e. where all criteria have a common unit of measure) may be used to provide a sum of measurements or be incorporated into a linear equation describing the path characteristics. (See Roginsky, US Patent 6034946, Column 15 Lines 30-35).

At the time of the invention it would have been obvious to combine what was well-known in the art with Shavitt regarding use of other performance criteria. The motivation for said combination would have been to allow for Shavitt to consider all factors affecting the path selection for improved load balancing (Shavitt-Column 1 Lines 20-25).

Claims 28-39, 41-44 are rejected on the same basis as Claims 5-16, 18-21.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



Claims 22-23, 45-46, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shavitt (US Patent 7065584) in view of Saleh (US Patent 7002917).

Shavitt did not disclose (re. Claim 22) wherein the metric includes non-performance related characteristics; (re. Claim 23) wherein the non-performance related characteristics includes pre-specified route preferences.

Saleh disclosed (re. Claim 22) wherein the metric includes non-performance related characteristics (Saleh-Column 5 Lines 25-30, Column 33 Lines 35-40); (re. Claim 23) wherein the non-performance related characteristics includes pre-specified route preferences. (Saleh-Column 5 Lines 25-30, Column 33 Lines 35-40)

Shavitt and Saleh are analogous art because they present concepts and practices regarding path characterization measurements. At the time of the invention it would have been obvious to combine Saleh into Shavitt. The motivation for said combination would have been, as Saleh suggests (Saleh-Column 2 Lines 15-20), to implement a fast, efficient method for the most preferable path.

While Shavitt disclosed (re. Claim 47) first, second, and third metric, Shavitt did not disclose (re. Claim 47) a plurality of one or more inputs adapted to be coupled to the network path; and a plurality of one or more outputs coupled to the plurality of one or more inputs, wherein responsive to a plurality of one or

more packets arriving to the network device through the plurality of one or more inputs, the network device selects at least one output from the plurality of one or more outputs, and the at least one output is determined at least partly using at least one of the first metric, second metric, and third metric.

Saleh disclosed (re. Claim 47) a path matrix configuration (Saleh-Column 23 Lines 1-5) and adding the metric from each segment (corresponding to first metric, second metric, and third metric) (Column 33 Lines 35-40) in order to select the desired path (Column 32 Lines 50-55).

Shavitt and Saleh are analogous art because they present concepts and practices regarding path characterization measurements. At the time of the invention it would have been obvious to combine Saleh into Shavitt. The motivation for said combination would have been, as Saleh suggests (Saleh-Column 2 Lines 15-20), to implement a fast, efficient method for the most preferable path.

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other

passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to the enclosed PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571)272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gcb

  
WILLIAM C. VAUGHN, JR.  
PRIMARY EXAMINER

